START

A TEST CLOCK, A NORMAL CLOCK, AND A SCAN SELECTION EXTERNAL SIGNAL ARE INPUTTED TO A SCAN TEST CIRCUIT HAVING A SCAN CHAIN OF n PIECES OF SCAN STORAGE ELEMENTS FROM EXTERNAL INPUT TERMINAL. — 800

A SCAN CONTROL CIRCUIT CHANGES A SCAN CLOCK OF THE n PIECES OF SCAN STORAGE ELEMENTS TO A TEST CLOCK. — 801

THE SCAN CONTROL CIRCUIT RECEIVES THE SCAN SELECTION EXTERNAL SIGNAL, GENERATES A SCAN SELECTION INTERNAL SIGNAL, AND CHANGES THE n PIECES OF SCAN STORAGE ELEMENTS INTO THE SCAN MODE. — 802

DOES THE (N-1)th SCAN STORAGE ELEMENT STORE SCAN-IN DATA ? — 803   YES

NO

THE SCAN CONTROL CIRCUIT RECEIVES THE SCAN SELECTION EXTERNAL SIGNAL, GENERATES A SCAN SELECTION INTERNAL SIGNAL, AND CHANGES THE n PIECES OF SCAN STORAGE ELEMENTS INTO THE SCAN MODE. — 804

ALTHOUGH THE SCAN SELECTION EXTERNAL SIGNAL IS CHANGES INTO THE NORMAL OPERATION MODE, THE SCAN CONTROL CIRCUIT MAINTAINS THE CURRENT STATE OF THE SCAN SELECTION INTERNAL SIGNAL, WHEREBY THE n PIECES OF SCAN STORAGE ELEMENTS REMAIN IN THE SCAN MODE. — 805

THE SCAN CONTROL CIRCUIT CHANGES THE SCAN CLOCK OF THE n PIECES OF SCAN STORAGE ELEMENTS INTO THE NORMAL OPERATION CLOCK, AND MASKS THE NORMAL OPERATION CLOCK SO THAT THE CLOCK IS NOT INPUT TO THE n PIECES OF SCAN STORAGE ELEMENTS. — 806

THE n PIECES OF SCAN STORAGE ELEMENTS HOLD AND OUTPUT THE SCAN-IN DATA RECEIVED FROM THE EXTERNAL INPUT TERMINAL, IN SYNCHRONIZATION WITH THE NORMAL OPERATION CLOCK. — 807

THE SCAN CONTROL CIRCUIT CHANGES THE n PIECES OF SCAN STORAGE ELEMENTS INTO THE NORMAL OPERATION MODE BY THE SCAN SELECTION INTERNAL SIGNAL. — 808

THE n PIECES OF SCAN STORAGE ELEMENTS HOLD AND OUTPUT THE NORMAL OPERATION DATA IN SYNCHRONIZATION WITH THE NORMAL OPERATION CLOCK.

THE SCAN CONTROL CIRCUIT CHANGES THE n PIECES OF SCAN STORAGE ELEMENTS INTO THE SCAN MODE BY THE SCAN SELECTION INTERNAL SIGNAL. FURTHER, IT CHANGES THE SCAN CLOCK TO THE TEST CLOCK. — 809

NO   ANOTHER SCAN-IN DATA SHOULD BE INPUTTED? — 811   YES — 810

THE DATA STORED IN ALL OF THE n PIECES OF SCAN STORAGE ELEMENTS ARE OUTPUT TO THE EXTERNAL OUTPUT TERMINAL IN SYNCHRONIZATION WITH THE TEST CLOCK. — 812

FIG.8

END